(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 12 May 2005 (12.05.2005)

PCT

(10) International Publication Number WO 2005/042719 A2

(51) International Patent Classification7:

C12N

(21) International Application Number:

PCT/US2004/036200

(22) International Filing Date:

1 November 2004 (01.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/516,172

30 October 2003 (30.10.2003)

(71) Applicant (for all designated States except US): THE CBR INSTITUTE FOR BIOMEDICAL RESEARCH, INC. [US/US]; 800 Huntington Avenue, Boston, MA 02115 (US).

(72) Inventors: and

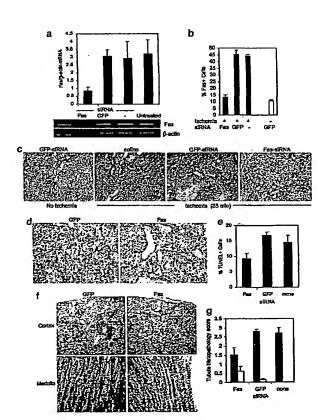
(75) Inventors/Applicants (for US only): LIEBERMAN,

Judy [US/US]; 63 Buckminster Road, Brookline, MA 02445-5807 (US). HAMAR, Péter [HU/HU]; Szalmás Piroska u 2/b, H-1068 Budapest (HU).

- (74) Agents: RESNICK, David, S. et al.; Nixon Peabody LLP, 100 Summer Street, Boston, MA 02110 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

[Continued on next page]

(54) Title: METHODS FOR TREATING AND PREVENTING ISCHEMIA-REPERFUSION INJURY USING RNA INTERFER-ING AGENTS



(57) Abstract: The present invention is based, at least in part, on the discovery of methods useful in the modulation, e.g., inhibition, of gene expression or protein activity, e.g., apoptosis-related gene expression, e.g., Fas gene expression or cytokine expression, e.g., proinflammatory cytokine expression. In particular, the present invention is based on novel RNA interfering agents, e.g., siRNA molecules which target apoptosis-related genes, and result in reduction, e.g., prolonged reduction, of apoptosis-related gene expression or cytokine expression in cells. Inhibition of apoptosis-related gene expression or protein activity or cytokine gene expression or protein activity, e.g., by the siRNAs used in the methods of the invention, inhibits ischemia-reperfusion injury.

WO 2005/042719 A2



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

 without international search report and to be republished upon receipt of that report